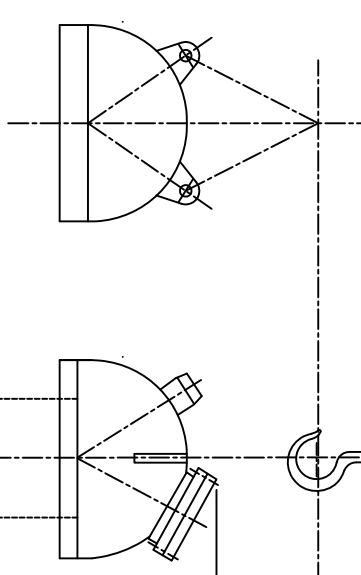
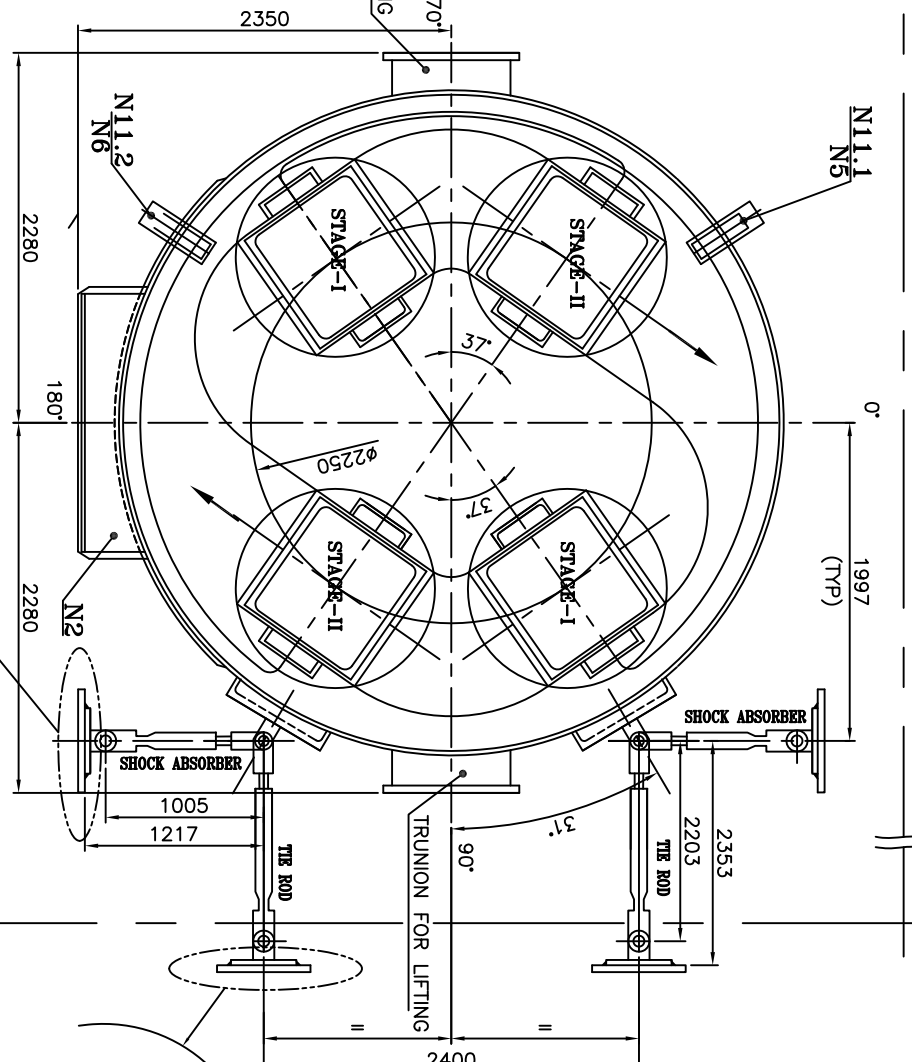
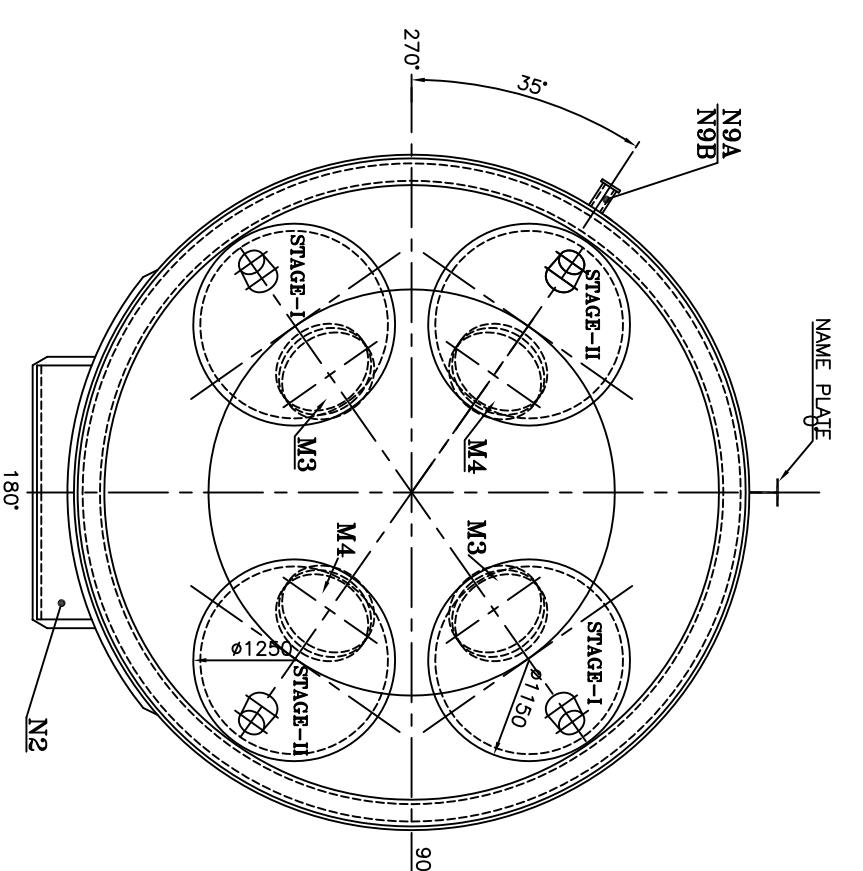


674007-01891-0 3RD 3640

EL 34.867M  
EL 34.367MEL 24.97M  
EL 24.32MMSR TYPE-B  
SECTION A-BFOR ARRANGEMENT OF NOZZLES ON CIRCUMFERENCE  
ONLY CROSS SECTION ARE VALID  
SECTION B-C

DESIGN DATA			
DESIGN CODE	ASME SECTION-VIII DIVISION-1; 2010	STAGE-I & II REACTOR TANK	STAGE-II & III REACTOR TANK
DESIGN FACTOR	1.0		
DESIGN PRESSURE	-1/960 KG/CM <sup>2</sup> (G)	25.0 KG/CM <sup>2</sup> (G)	70.0 KG/CM <sup>2</sup> (G)
DESIGN TEMPERATURE	120 °C	225 °C	286 °C
HYDRAULIC TEST PRESSURE	13.5 KG/CM <sup>2</sup> (G)	37.5 KG/CM <sup>2</sup> (G)	105 KG/CM <sup>2</sup> (G)
NON DESTRUCTIVE TEST	FILED WELD TOG & RADIOGRAPHY		
POST WELD HEAT TREATMENT	NO	NO	YES
ESTIMATED WEIGHT (EACH MSR)			
DRY	180 TONNES (APPROX)		
OPERATING	215 TONNES (APPROX)		
FLOODED	425 TONNES (APPROX)		
DRY WT. EACH ASSY.			
SEP. DRAIN TANK	4 TONNES (APPROX)		
TUBE-BUNDLE EACH	12 TONNES (APPROX)	16 TONNES (APPROX)	
REH. COND. TANK	3.2 TONNES (APPROX)	3.3 TONNES (APPROX)	
LOWER SHELL WITH REHEATERS	55 TONNES (APPROX)		
UPPER SHELL WITH REHEATERS	120 TONNES (APPROX)		

\* ONLY FOR UPPER PART OF SHELL.

LIST OF CONNECTIONS / MSR			
CONN. NO.	END. CONN. DIM. (OD X TS)	END. TYPE	REMARKS
N1	1840 X 20	BW	STEAM INLET
N2	1800	BW	SUPERHEATED STEAM OUTLET
N3	273 X 9.27	BW	REHEATER STEAM INLET STAGE-1
N4	250	BW	REHEATER STEAM INLET STAGE-2
N5	168.3 X 7.11	BW	REH. CONDENSATE OUTLET STAGE-1
N6	200	BW	REH. CONDENSATE OUTLET STAGE-2
N7	273 X 6.35	BW	SEPARATOR DRAIN OUTLET
N8	219.1 X 6.35	BW	SHELL DRAIN (COARSE SEPARATOR)
N9A+B	80	FLANGED	PRESSURE BALANCE WELL
N11.1	114.3 X 6.02	BW	PRESSURE BALANCE REH. DRAIN
N11.2	114.3 X 8.56	BW	PRESSURE BALANCE REH. DRAIN
N12	273 X 6.35	BW	PRESSURE BALANCE MSR DRAIN TANK
N15	250	FLANGED	RESIDUAL DRAIN-COARSE SEPARATOR
N1+M2	600	FLANGED	MANHOLE (SHELL)
M1+M2	400	FLANGED	MANHOLE (REHEATER TOP)
M3+M4	400	FLANGED	MANHOLE (REHEATER BOTTOM)
M5+M6	400	FLANGED	MANHOLE (REHEATER COVER)

## LIST OF PARTS

PART	DESCRIPTION	DISPOSITION
1	SHELL	SA516 GR.70
2	SPHERICAL HEAD	SA516 GR.70
3	SEPARATOR	SA516 TP321
4	REHEATER TUBE SHEET	SA266 GR-2 WITH SS OVERLAY
5	REHEATER FINNED TUBE	SA516 TP321
6	REHEATER HEATER	SA516 GR.70
7	NOZZLE N1/SHELL	SA516 GR.70/CLADDING SS TP321
8	NOZZLE	SA516 GR.70/SA516 GR.70
9	INTERNAL	SA516 TP 321
10	CASSET	S.S. SPIRAL WOUND GRAPHITE FILLED
11	BOLTS / NUTS	P-6.6/6, P-8.8/8

## WELDING PREPARATION FOR NOZZLE CONNECTIONS

WALL THICKNESS ≤ 7MM	WALL THICKNESS > 7MM

## CORROSION ALLOWANCE

CLADDING SHELL : 1.0 MM	NON-CLADDING SHELL : 3.2 MM
INTERNAL AND REHEATER PARTS : 1.0 MM	REHEATER TUBES : NIL

## PURCHASER

NUCLEAR POWER CORPORATION OF INDIA LTD. (NPCL)  
(A GOVERNMENT OF INDIA ENTERPRISE)2 x 700MW KAKRAPAR ATOMIC POWER PROJECT (UNIT-3)  
DIST. SURAT, GUJARAT, INDIACONTRACTOR  
ALSTOM

Revision History

Rev.	Revision Date	Created by	Checked by	Approved by	Description
D	13.02.2012	R.K. RAJESH	M.C. SURESH	RAJESH	FOURTH SUBMISSION
E	14.07.2012	R.K. RAJESH	M.C. SURESH	RAJESH	FIFTH SUBMISSION
F	06.01.2013	R.K. RAJESH	M.C. SURESH	RAJESH	SIXTH SUBMISSION
G	12.01.2013	R.K. RAJESH	M.C. SURESH	RAJESH	SEVENTH SUBMISSION

BHEL Identification Number: 01861004049

Cross Checked (BHEL)

Department

Name

Date

Signature

Title

Document Type

Document Status

ALSTOM Document Code

Rev.

Date

Enp.

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BHEL

MOISTURE SEPARATOR

REHEATER, TYPE-B

BHEL BHPAL DRG. NO. 0-16810-40049 Rev.06